**Amendments to the Specification:**

Please replace the original paragraphs with the following amended paragraphs:

[0002] In a sequencing batch reactor ("SBR") process of wastewater treatment a reactor is operated in a batch treatment mode involving a fill phase, aerate or react phase, a settle phase and a decant phase. During the aerate phase the wastewater influent is mixed and aerated. In the settle phase the suspended solids are allowed to settle typically forming a scum surface, a layer of supernatant, and a sludge blanket. In the decant phase the relatively clear supernatant is removed without drawing solids from the scum layer or sludge blanket. When in a non-decant phase it is necessary to prevent accumulation of suspended solids in the decanter that will contaminate the supernatant that is drawn in to the weir in the decant phase.

[0004] Prior art decanters are generally classified as fixed decanters or floating decanters. In the fixed type decanter the discharge conduit is fixedly connected to the reactor. Both the decanter and discharge pipe are positioned in a fixed position requiring precise control of the liquid levels within the reactor to withdraw supernatant ~~form~~ from the reactor. The fixed type decanters require relatively expensive installation procedures to fixedly connect ~~as~~ the elements in a location that can not be readily changed for various processes. Additionally, ~~these~~ fixed type ~~processes~~ decanters may require significant time and expense to maintain and/or replace a discharge pipe.

[0006] It is commonly desired to maintain non-fixed type decanters within a position so as to be proximate a catwalk or pier for easy access when needed. It is also often desired to limit the lateral movement of the decanter in turbulent conditions such as in high wind conditions. The prior art decanter mooring systems typically include one or more guideposts ~~guidepost~~ connected between the bottom of the reactor and the decanter to maintain the decanter in ~~a affixed~~ a fixed position within the reactor. The decanters are connected to the guideposts so as to be able to move vertically along the length of the

guideposts. These prior art devices have several drawbacks. Drawbacks include the required installation and maintenance of the guideposts, in particular having the installation on the bottom of the reactor where the solids settle. Another drawback is the decanter sticking or becoming misaligned within the guideposts allowing solids to enter the decanter and contaminate the supernatant discharged.

[0008] In accordance with the present invention, decanter mooring systems and methods are presented which reduce or overcome many of the problems known in the art.

[0009] A first aspect of the invention is a decanter mooring system, ~~the~~ one system including a decanter having a discharge orifice, the decanter being disposed within a reactor containing a liquid and adapted to move vertically in relation to the surface of the liquid, a discharge conduit connected to the discharge orifice in a manner so as to be moveable in relation to the decanter, and a stabilizing arm having a first end moveably connected to the reactor in a manner to limit the lateral movement of the decanter in the reactor and a second end connected to the ~~reactor~~ decanter. The decanter mooring systems of the invention are applicable to any known floating decanter, including, but not limited to the semi-submersible floating decanters described in assignee's co-pending patent application serial number [[_____]] 10/787,626, filed February 26, 2004, incorporated herein by reference. Decanters which may be moored using the systems of the invention typically are of the non-fixed type and are allowed to move in relation to the changes in the liquid level in the reactor. Decanters that may be moored using the systems of the invention may include a weir that is fixedly connected to the float or moveably connected in relation to the float, and may include an adjustment mechanism to move the decanter between a non-decant position and a decant position.

~~[0011]~~[0010] The discharge conduit may be ~~constructed of~~ a substantially rigid member having at least one hinged section adapted for allowing the discharge ~~pipe~~ conduit to move relative to the attached decanter. In a preferred embodiment the discharge conduit includes two hinged sections, a first hinged section positioned

proximate a sidewall of the reactor and a second hinged section positioned proximate the decanter. The discharge conduit may be constructed of a flexible member.

~~[0012]~~[0011] Decanter mooring systems of the invention include at least one stabilizing arm connected between either the discharge conduit or the decanter. Decanter mooring systems of the invention may include more than one stabilizing arm. The stabilizing arm(s) function to maintain the decanter in a desired location laterally within the reactor and allow vertical movement of the decanter. The first end of the stabilizing arm is moveably connected to a sidewall of the reactor in a manner to allow the stabilizing arm to move vertically within the reactor. With a substantially rigid discharge conduit the second end of the stabilizing arm may be connected to either the discharge conduit or the decanter. The second end may be fixedly or moveably connected to the discharge conduit or the decanter. In embodiments having a flexible discharge conduit the second end of the stabilizing arm is connected to the decanter. It is desired that the stabilizing arm allow the decanter to maintain a substantially parallel orientation in relation to the surface of the liquid throughout the vertical range of motion of the decanter.

~~[0013]~~[0012] Further aspects and advantages of the invention will become apparent by reviewing the description of embodiments that follows.

[0013] For a more complete understanding of the present invention, and the advantages thereof, reference is now made to the following ~~descriptions~~ description taken in conjunction with the accompanying drawings, in which:

[0014] ~~FIG. 1 is a~~ FIGS. 1 and 3 are partial cross-sectional, ~~top view~~ plan views of ~~an embodiment of a~~ two embodiments of decanter mooring ~~system~~ systems of the invention; and

[0018] Decanter 10 includes a float 12 and a weir 14. Float 12 may be a torus shaped member or any other shaped member having a central passageway 16, in this case an annulus. Weir 14 includes an inlet opening 28 and a discharge orifice 32. Weir 14 is positioned within center annulus 16. Weir 14 may be fixedly or moveably positioned within center annulus 16. Various types of decanters 10 may be moored using the mooring system of the present invention, the only requirement being that the decanter is a floating decanter. One example of a floating decanter is that described in assignee's co-pending application serial number 10/787,626, filed February 26, 2004 ~~_____, filed _____~~, ~~(reference number 100-P001US)~~ previously incorporated herein by reference herein.

[0020] Decanter mooring system 8 includes ~~a~~ at least one stabilizing arm 11 for maintaining decanter 10 in a substantially set position laterally within reactor 46. For example, it is often desired to maintain decanter 10 in a position proximate a catwalk 15. Additionally, stabilizing arm 11 ~~stabilized~~ stabilizes decanter 10 and discharge conduit 34 in turbulent conditions, such as when high winds may laterally move decanter 10, possibly damaging decanter 10 and/or discharge conduit 34. A portion of an optional second stabilizing arm 11' is illustrated in phantom, showing only second end 11b', it being understood that the other end would be connected to reactor side wall 46a.

[0021] Stabilizing arm 11 is an elongated member moveably connected at a first end 11a to reactor sidewall 46a by a connector 17 that allows rotation of stabilizing arm 11 in a substantially vertical plane. It is desired that rotational connector ~~33~~ 17 be substantially aligned with hinged section 13a of discharge conduit 34. A second end 11b of stabilizing arm 11 is connected to discharge conduit 34 by a connector 19 shown as a clamp. Second end 11b may be either fixedly or moveably connected to discharge conduit 34. It may be desired to connect second end 11b of stabilizing arm 11 to decanter 10. If connected to decanter 10, the stabilizing arm may be connected either to the float 12, the weir 14, or both.

[0022] FIG. 2 is a partial cross-sectional, side view of the decanter mooring system embodiment 8 of FIG. 1, also illustrating a reactor bottom 46b. Hinged section 13b is demonstrated in this view of decanter mooring system 8. Hinged section 13b facilitates decanter 10 remaining in a substantially parallel plane with liquid surface 48 while decanter 10 and discharge conduit 34 move vertically as illustrated by the double headed arrow designated V.

Immediately after paragraph [0022] please add the following paragraph:

[0023] FIG. 3 is a partial cross-sectional, plan view of another decanter mooring systems embodiment 80 of the invention. In embodiment 80, discharge conduit 34 may be constructed of a flexible material, such as a plastic or rubber conduit, and therefore need not include hinged sections 13 (FIGS. 1 and 2). First end 11a of stabilizing arm 11 may be moveably (for example, rotatively) connected to reactor sidewall 46a by connector 17. Second end 11b of stabilizing arm 11 may be moveably or fixedly connected to decanter 10 by a connector 19. Second end 11b may be connected to either float 12, weir 14, or both.

~~[0023]~~[0024] The inventive decanter mooring systems are particularly useful in methods of decanting supernatant from a liquor in wastewater treatment facilities, and these methods of using the inventive decanter mooring systems are also considered within the invention. Depending on the nature of the wastewater being treated, weather conditions expected over the normal life of a given decanter, the access available to human operators to the decanter, reliability of electrical equipment such as switches and the like, and similar criteria, the decanter mooring systems of the present invention and methods of their use may entail great variation in the various components. For example, the number, length, strength, corrosion resistance and other chemical and physical properties of the stabilizer arm and discharge pipe are dependent upon these criteria, as are the hinges and other components.

~~[0039]~~[0025] From the foregoing detailed description of specific embodiments of the invention, it should be apparent that novel and patentable decanter mooring systems and methods of using same have been described. Although specific embodiments of the invention have been described herein in some detail, this has been done solely for the purposes of describing various features and aspects of the invention, and is not intended to be limiting with respect to the scope of the invention. It is contemplated that various substitutions, alterations, and/or modifications, including but not limited to those implementation variations which may have been suggested herein, may be made to the described embodiments without departing from the scope of the appended claims. For example, various materials of construction may be utilized, and variations in the decanter type (shape, buoyancy, submersible, semi-submersible, and the like) are considered within the invention.